## D: 112CY

## PURDUE UNIVERSITY DEPARTMENT OF BIOLOGICAL SCIENCES LAFAYETTE, INDIANA

September 23, 1963

Dr. Joshua Lederberg
Department of Genetics
Stanford University School of Medicine
Stanford Medical Center
300 Pasteur Drive
Palo Alto, California

Dear Josh:

I should have written to tell you and Esther how enjoyable that evening was last spring, especially the stimulating computer talk. It even induced a pilgrimage to the local 7090 and some ruffling of the pages of a book on Fortran. However, lacking a problem at the moment for which the computer is really necessary, that is as far as I got.

There are further recombination data on <u>r</u>II deletions beyond those published, and I can dig them out if you wish. However, would it not be better to try out your program first on published matrix? It represents a significant lump to chew, and it might be cheaper in the long run to iron out any difficulties with a smaller body of data. A punched card representing each cross may be the simplest way of compiling the data sets. Your assistant can transcribe directly from the matrix and then scramble the cards. If you get the system working, I will be glad to send more data in the form of lists that can be added to the set. Would redundancy be troublesome, i.e., two cards representing the same cross?

Needless to say, I am curious about the method, if only to better understand exactly what my mind was doing in guiding the scissors-and-tape operation of transposing columns and rows. Are you sure that it is  $100n^2$  microseconds, and not 100n! microseconds? Aren't the unfilled cells going to complicate the problem considerably?

I may or may not be visiting California during the next few months. In any case, if you and/or Esther should be anywhere near Lafayette, Dotty and I would be delighted to see you. You have yet to make up for your sin (ages ago) of driving by without stopping.

All the best,

Seymour Benzer